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( पहला पुनरीक्षण )

*Indian Standard*

ROLLING BEARINGS — RADIAL BEARINGS WITH  
LOCATING SNAP RING — DIMENSIONS AND  
TOLERANCES — SPECIFICATION  
( *First Revision* )

ICS 21.100.20

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**BUREAU OF INDIAN STANDARDS**  
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## NATIONAL FOREWORD

This Indian Standard ( First Revision ) which is identical with ISO 464 : 1995 'Rolling bearings — Radial bearings with locating snap ring — Dimensions and tolerances' issued by the International Organization for Standardization ( ISO ), was adopted by the Bureau of Indian Standards on the recommendation of the Rolling Bearings Sectional Committee and approval of the Light Mechanical Engineering Division Council.

The original standard was published in 1987 by adopting ISO 464 : 1976. The first revision of this standard has been taken up to align it with the latest version of ISO 464.

The text of ISO Standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a full stop (.) as the decimal marker.

In the adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

| <i>International Standard</i> | <i>Corresponding Indian Standard</i>   | <i>Degree of Equivalence</i> |
|-------------------------------|--|------------------------------|
| ISO 15 : 1981                 | IS 5669 : 1987 General plan of boundary dimensions for radial rolling bearings ( <i>first revision</i> )         | Identical                    |
| ISO 582 : 1995                | IS 5934 : 1999 Rolling bearings — Chamfer dimensions — Maximum values — Specification ( <i>second revision</i> ) | do                           |

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated; expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( *revised* )'. The number of significant places retained in the rounded off value should be the same as that of the specified values in this standard.

*Indian Standard*

**ROLLING BEARINGS — RADIAL BEARINGS WITH  
LOCATING SNAP RING — DIMENSIONS AND  
TOLERANCES — SPECIFICATION**

*( First Revision )*

## **1 Scope**

This International Standard specifies the snap ring groove dimensions, minimum chamfer dimensions on the snap ring groove side of the outer ring and the snap ring dimensions for radial bearings in dimension series 18 and 19 and diameter series 0, 2, 3 and 4 (except dimension series 00, 82 and 83), as specified in ISO 15.

## **2 Normative references**

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

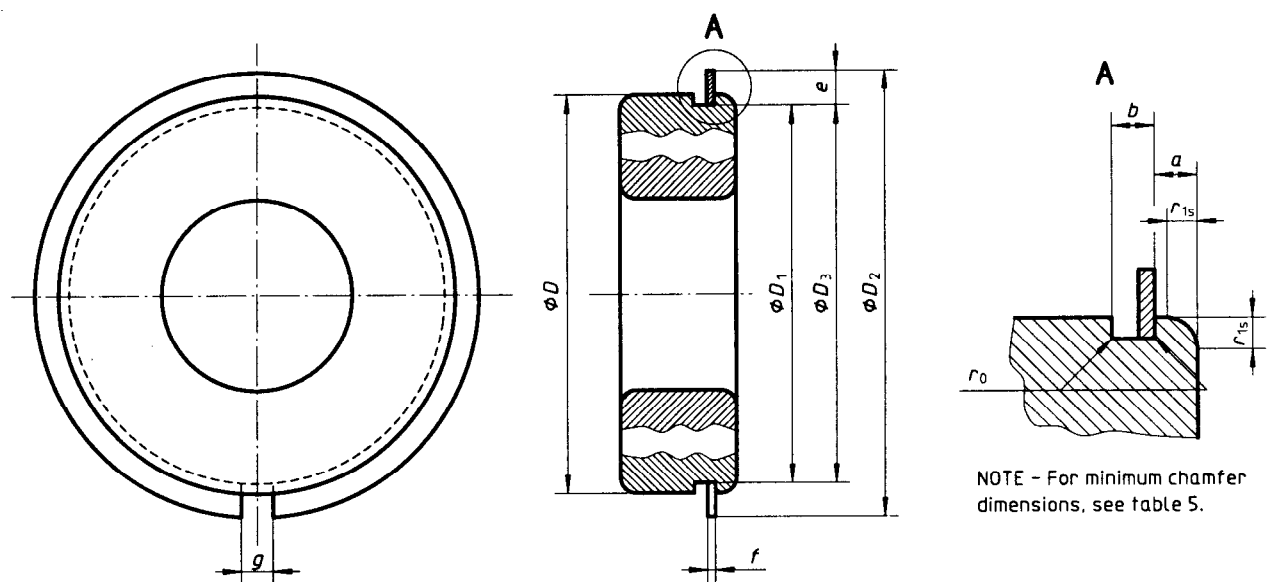
ISO 15:1981, *Rolling bearings — Radial bearings — Boundary dimensions — General plan.*

ISO 582:1995, *Rolling bearings — Chamfer dimensions — Maximum values.*

## **3 Symbols and dimensions**

See figure 1 and tables 1 to 5.

The dimensions given in tables 1 to 5 corresponding to the symbols shown in figure 1 are nominal dimensions unless specified otherwise.



- $D$  = outside diameter of bearing  
 $D_1$  = snap ring groove diameter  
 $D_2$  = outside diameter of snap ring, when mounted  
 $D_3$  = inside diameter of snap ring, before mounting  
 $r_0$  = fillet radius at bottom of snap ring groove  
 $r_{1s}$  = single chamfer dimension of outer ring on snap ring groove side  
 $a$  = snap ring groove location  
 $b$  = snap ring groove width  
 $e$  = snap ring section height  
 $f$  = snap ring thickness  
 $g$  = snap ring gap, when mounted

Figure 1 — Rolling bearing with locating snap ring

### 3.1 Dimension series 18 and 19

Table 1 — Snap ring groove dimensions

Dimensions in millimetres

| D   | D <sub>1</sub> |       | Dimension series |      |      |      | b    |      | r <sub>0</sub> |
|-----|----------------|-------|------------------|------|------|------|------|------|----------------|
|     |                |       | 18               |      | 19   |      |      |      |                |
|     |                |       | a                |      |      |      |      |      |                |
|     | max.           | min.  | max.             | min. | max. | min. | max. | min. | max.           |
| 22  | 20,8           | 20,5  | —                | —    | 1,05 | 0,90 | 1,05 | 0,8  | 0,2            |
| 24  | 22,8           | 22,5  | —                | —    | 1,05 | 0,90 | 1,05 | 0,8  | 0,2            |
| 28  | 26,7           | 26,4  | —                | —    | 1,30 | 1,15 | 1,20 | 0,95 | 0,25           |
| 30  | 28,7           | 28,4  | —                | —    | 1,30 | 1,15 | 1,20 | 0,95 | 0,25           |
| 32  | 30,7           | 30,4  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 34  | 32,7           | 32,4  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 37  | 35,7           | 35,4  | 1,30             | 1,15 | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 39  | 37,7           | 37,4  | —                | —    | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 40  | 38,7           | 38,4  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 42  | 40,7           | 40,4  | 1,30             | 1,15 | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 44  | 42,7           | 42,4  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 45  | 43,7           | 43,4  | —                | —    | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 47  | 45,7           | 45,4  | 1,30             | 1,15 | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 52  | 50,7           | 50,4  | 1,30             | 1,15 | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 55  | 53,7           | 53,4  | —                | —    | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 58  | 56,7           | 56,4  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 62  | 60,7           | 60,3  | —                | —    | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 65  | 63,7           | 63,3  | 1,30             | 1,15 | —    | —    | 1,20 | 0,95 | 0,25           |
| 68  | 66,7           | 66,3  | —                | —    | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 72  | 70,7           | 70,3  | 1,70             | 1,55 | 1,70 | 1,55 | 1,20 | 0,95 | 0,25           |
| 78  | 76,2           | 75,8  | 1,70             | 1,55 | —    | —    | 1,6  | 1,3  | 0,4            |
| 80  | 77,9           | 77,5  | —                | —    | 2,1  | 1,9  | 1,6  | 1,3  | 0,4            |
| 85  | 82,9           | 82,5  | 1,70             | 1,55 | 2,1  | 1,9  | 1,6  | 1,3  | 0,4            |
| 90  | 87,9           | 87,5  | 1,70             | 1,55 | 2,1  | 1,9  | 1,6  | 1,3  | 0,4            |
| 95  | 92,9           | 92,5  | 1,70             | 1,55 | —    | —    | 1,6  | 1,3  | 0,4            |
| 100 | 97,9           | 97,5  | 1,70             | 1,55 | 2,5  | 2,3  | 1,6  | 1,3  | 0,4            |
| 105 | 102,6          | 102,1 | —                | —    | 2,5  | 2,3  | 1,6  | 1,3  | 0,4            |
| 110 | 107,6          | 107,1 | 2,1              | 1,9  | 2,5  | 2,3  | 1,6  | 1,3  | 0,4            |
| 115 | 112,6          | 112,1 | 2,1              | 1,9  | —    | —    | 1,6  | 1,3  | 0,4            |
| 120 | 117,6          | 117,1 | 2,1              | 1,9  | 3,3  | 3,1  | 1,6  | 1,3  | 0,4            |
| 125 | 122,6          | 122,1 | 2,1              | 1,9  | 3,3  | 3,1  | 1,6  | 1,3  | 0,4            |
| 130 | 127,6          | 127,1 | 2,1              | 1,9  | 3,3  | 3,1  | 1,6  | 1,3  | 0,4            |
| 140 | 137,6          | 137,1 | 2,5              | 2,3  | 3,3  | 3,1  | 2,2  | 1,9  | 0,6            |
| 145 | 142,6          | 142,1 | —                | —    | 3,3  | 3,1  | 2,2  | 1,9  | 0,6            |
| 150 | 147,6          | 147,1 | 2,5              | 2,3  | 3,3  | 3,1  | 2,2  | 1,9  | 0,6            |
| 165 | 161,8          | 161,3 | 3,3              | 3,1  | 3,7  | 3,5  | 2,2  | 1,9  | 0,6            |
| 175 | 171,8          | 171,3 | 3,3              | 3,1  | —    | —    | 2,2  | 1,9  | 0,6            |
| 180 | 176,8          | 176,3 | —                | —    | 3,7  | 3,5  | 2,2  | 1,9  | 0,6            |
| 190 | 186,8          | 186,3 | 3,3              | 3,1  | 3,7  | 3,5  | 2,2  | 1,9  | 0,6            |
| 200 | 196,8          | 196,3 | 3,3              | 3,1  | —    | —    | 2,2  | 1,9  | 0,6            |



**Table 2 — Snap ring dimensions and tolerances**

Dimensions and tolerances in millimetres

| $D$ | $D_2$ <sup>1)</sup> | $D_3$ | $\Delta D_{3s}$ <sup>2)</sup> |       | $e$  |      | $f$  |      | $g$ <sup>1)</sup> |
|-----|---------------------|-------|-------------------------------|-------|------|------|------|------|-------------------|
|     | max.                |       | high                          | low   | max. | min. | max. | min. | $\approx$         |
| 22  | 24,8                | 20,5  | 0                             | - 0,3 | 2,00 | 1,85 | 0,7  | 0,6  | 2                 |
| 24  | 26,8                | 22,5  | 0                             | - 0,3 | 2,00 | 1,85 | 0,7  | 0,6  | 2                 |
| 28  | 30,8                | 26,4  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 30  | 32,8                | 28,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 32  | 34,8                | 30,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 34  | 36,8                | 32,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 37  | 39,8                | 35,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 39  | 41,8                | 37,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 40  | 42,8                | 38,3  | 0                             | - 0,3 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 42  | 44,8                | 40,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 3                 |
| 44  | 46,8                | 42,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 45  | 47,8                | 43,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 47  | 49,8                | 45,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 52  | 54,8                | 50,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 55  | 57,8                | 53,3  | 0                             | - 0,4 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 58  | 60,8                | 56,3  | 0                             | - 0,6 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 62  | 64,8                | 60,2  | 0                             | - 0,6 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 65  | 67,8                | 63,2  | 0                             | - 0,6 | 2,05 | 1,90 | 0,85 | 0,75 | 4                 |
| 68  | 70,8                | 66,2  | 0                             | - 0,6 | 2,05 | 1,90 | 0,85 | 0,75 | 5                 |
| 72  | 74,8                | 70,2  | 0                             | - 0,6 | 2,05 | 1,90 | 0,85 | 0,75 | 5                 |
| 78  | 82,7                | 75,7  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 80  | 84,4                | 77,4  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 85  | 89,4                | 82,4  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 90  | 94,4                | 87,4  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 95  | 99,4                | 92,4  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 100 | 104,4               | 97,4  | 0                             | - 0,6 | 3,25 | 3,10 | 1,12 | 1,02 | 5                 |
| 105 | 110,7               | 101,9 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 5                 |
| 110 | 115,7               | 106,9 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 5                 |
| 115 | 120,7               | 111,9 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 5                 |
| 120 | 125,7               | 116,9 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 7                 |
| 125 | 130,7               | 121,8 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 7                 |
| 130 | 135,7               | 126,8 | 0                             | - 0,8 | 4,04 | 3,89 | 1,12 | 1,02 | 7                 |
| 140 | 145,7               | 136,8 | 0                             | - 1,0 | 4,04 | 3,89 | 1,7  | 1,6  | 7                 |
| 145 | 150,7               | 141,8 | 0                             | - 1,0 | 4,04 | 3,89 | 1,7  | 1,6  | 7                 |
| 150 | 155,7               | 146,8 | 0                             | - 1,2 | 4,04 | 3,89 | 1,7  | 1,6  | 7                 |
| 165 | 171,5               | 161,0 | 0                             | - 1,2 | 4,85 | 4,70 | 1,7  | 1,6  | 7                 |
| 175 | 181,5               | 171,0 | 0                             | - 1,2 | 4,85 | 4,70 | 1,7  | 1,6  | 10                |
| 180 | 186,5               | 176,0 | 0                             | - 1,2 | 4,85 | 4,70 | 1,7  | 1,6  | 10                |
| 190 | 196,5               | 186,0 | 0                             | - 1,4 | 4,85 | 4,70 | 1,7  | 1,6  | 10                |
| 200 | 206,5               | 196,0 | 0                             | - 1,4 | 4,85 | 4,70 | 1,7  | 1,6  | 10                |

1) The dimensions given for  $D_2$  and  $g$  apply to mounted snap rings. The rings should fit in the grooves without radial slackness and are therefore somewhat expanded in the mounted condition.

2) Deviation of a single inside diameter  $D_{3s}$  of snap ring, before mounting.

### 3.2 Diameter series 0, 2, 3, and 4

Dimension series 00, 82 and 83 are not included.

**Table 3 — Snap ring groove dimensions**

Dimensions in millimetres

| D   | D <sub>i</sub> |        | Diameter series |      |            |      | b    |      | r <sub>0</sub><br>max. |
|-----|----------------|--------|-----------------|------|------------|------|------|------|------------------------|
|     |                |        | 0               |      | 2, 3 and 4 |      |      |      |                        |
|     |                |        | a               |      |            |      |      |      |                        |
|     | max.           | min.   | max.            | min. | max.       | min. | max. | min. |                        |
| 13  | 12,04          | 11,91  | —               | —    | 1,10       | 0,95 | 1,05 | 0,80 | 0,2                    |
| 16  | 15,16          | 15,04  | —               | —    | 1,20       | 1,05 | 1,05 | 0,80 | 0,2                    |
| 19  | 18,25          | 18,10  | 1,73            | 1,55 | 1,73       | 1,55 | 1,05 | 0,80 | 0,2                    |
| 22  | 21,11          | 20,95  | 1,73            | 1,55 | 1,73       | 1,55 | 1,05 | 0,80 | 0,2                    |
| 24  | 23,00          | 22,85  | 1,73            | 1,55 | 1,73       | 1,55 | 1,05 | 0,80 | 0,2                    |
| 26  | 25,15          | 25,00  | 1,73            | 1,55 | 1,73       | 1,55 | 1,05 | 0,80 | 0,2                    |
| 28  | 26,7           | 26,4   | 1,73            | 1,55 | 1,73       | 1,55 | 1,20 | 0,95 | 0,25                   |
| 30  | 28,17          | 27,91  | —               | —    | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 32  | 30,15          | 29,90  | 2,06            | 1,90 | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 35  | 33,17          | 32,92  | 2,06            | 1,90 | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 37  | 34,77          | 34,52  | —               | —    | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 40  | 38,10          | 37,85  | —               | —    | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 42  | 39,75          | 39,50  | 2,06            | 1,90 | 2,06       | 1,90 | 1,65 | 1,35 | 0,4                    |
| 44  | 41,75          | 41,50  | 2,06            | 1,90 | —          | —    | 1,65 | 1,35 | 0,4                    |
| 47  | 44,60          | 44,35  | 2,06            | 1,90 | 2,46       | 2,31 | 1,65 | 1,35 | 0,4                    |
| 50  | 47,60          | 47,35  | —               | —    | 2,46       | 2,31 | 1,65 | 1,35 | 0,4                    |
| 52  | 49,73          | 49,48  | 2,06            | 1,90 | 2,46       | 2,31 | 1,65 | 1,35 | 0,4                    |
| 55  | 52,60          | 52,35  | 2,08            | 1,88 | —          | —    | 1,65 | 1,35 | 0,4                    |
| 56  | 53,60          | 53,35  | —               | —    | 2,46       | 2,31 | 1,65 | 1,35 | 0,4                    |
| 58  | 55,60          | 55,35  | 2,08            | 1,88 | 2,46       | 2,31 | 1,65 | 1,35 | 0,4                    |
| 62  | 59,61          | 59,11  | 2,08            | 1,88 | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 65  | 62,6           | 62,1   | —               | —    | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 68  | 64,82          | 64,31  | 2,49            | 2,29 | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 72  | 68,81          | 68,3   | —               | —    | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 75  | 71,83          | 71,32  | 2,49            | 2,29 | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 80  | 76,81          | 76,30  | 2,49            | 2,29 | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 85  | 81,81          | 81,31  | —               | —    | 3,28       | 3,07 | 2,2  | 1,9  | 0,6                    |
| 90  | 86,79          | 86,28  | 2,87            | 2,67 | 3,28       | 3,07 | 3,0  | 2,7  | 0,6                    |
| 95  | 91,82          | 91,31  | 2,87            | 2,67 | —          | —    | 3,0  | 2,7  | 0,6                    |
| 100 | 96,80          | 96,29  | 2,87            | 2,67 | 3,28       | 3,07 | 3,0  | 2,7  | 0,6                    |
| 110 | 106,81         | 106,30 | 2,87            | 2,67 | 3,28       | 3,07 | 3,0  | 2,7  | 0,6                    |
| 115 | 111,81         | 111,30 | 2,87            | 2,67 | —          | —    | 3,0  | 2,7  | 0,6                    |
| 120 | 115,21         | 114,71 | —               | —    | 4,06       | 3,86 | 3,4  | 3,1  | 0,6                    |
| 125 | 120,22         | 119,71 | 2,87            | 2,67 | 4,06       | 3,86 | 3,4  | 3,1  | 0,6                    |
| 130 | 125,22         | 124,71 | 2,87            | 2,67 | 4,06       | 3,86 | 3,4  | 3,1  | 0,6                    |
| 140 | 135,23         | 134,72 | 3,71            | 3,45 | 4,90       | 4,65 | 3,4  | 3,1  | 0,6                    |
| 145 | 140,23         | 139,73 | 3,71            | 3,45 | —          | —    | 3,4  | 3,1  | 0,6                    |
| 150 | 145,24         | 144,73 | 3,71            | 3,45 | 4,90       | 4,65 | 3,4  | 3,1  | 0,6                    |
| 160 | 155,22         | 154,71 | 3,71            | 3,45 | 4,90       | 4,65 | 3,4  | 3,1  | 0,6                    |
| 170 | 163,65         | 163,14 | 3,71            | 3,45 | 5,69       | 5,44 | 3,8  | 3,5  | 0,6                    |
| 180 | 173,66         | 173,15 | 3,71            | 3,45 | 5,69       | 5,44 | 3,8  | 3,5  | 0,6                    |
| 190 | 183,64         | 183,13 | —               | —    | 5,69       | 5,44 | 3,8  | 3,5  | 0,6                    |
| 200 | 193,65         | 193,14 | 5,69            | 5,44 | 5,69       | 5,44 | 3,8  | 3,5  | 0,6                    |
| 210 | 203,6          | 203,1  | 5,69            | 5,44 | 5,69       | 5,44 | 3,8  | 3,5  | 1                      |
| 215 | 208,6          | 208,1  | —               | —    | 5,69       | 5,44 | 3,8  | 3,5  | 1                      |
| 225 | 217,0          | 216,5  | 6,5             | 6,2  | 6,5        | 6,2  | 4,9  | 4,5  | 1                      |
| 230 | 222,0          | 221,5  | —               | —    | 6,5        | 6,2  | 4,9  | 4,5  | 1                      |
| 240 | 232,0          | 231,5  | 6,5             | 6,2  | 6,5        | 6,2  | 4,9  | 4,5  | 1                      |
| 250 | 242,0          | 241,5  | —               | —    | 6,5        | 6,2  | 4,9  | 4,5  | 1                      |

**Table 4 — Snap ring dimensions and tolerances**

Dimensions and tolerances in millimetres

| <i>D</i> | <i>D</i> <sub>2</sub> 1) | <i>D</i> <sub>3</sub> | $\Delta D_{3s}$ 2) |       | <i>e</i> |      | <i>f</i> |      | <i>g</i> 1) |
|----------|--------------------------|-----------------------|--------------------|-------|----------|------|----------|------|-------------|
|          | max.                     |                       | high               | low   | max.     | min. | max.     | min. | ≈           |
| 13       | 14,3                     | 11,9                  | 0                  | − 0,3 | 1,15     | 1,0  | 0,7      | 0,6  | 3           |
| 16       | 18,5                     | 15                    | 0                  | − 0,3 | 1,65     | 1,5  | 0,7      | 0,6  | 3           |
| 19       | 21,5                     | 18                    | 0                  | − 0,3 | 1,65     | 1,5  | 0,7      | 0,6  | 3           |
| 22       | 25,1                     | 20,8                  | 0                  | − 0,4 | 2,00     | 1,85 | 0,7      | 0,6  | 3           |
| 24       | 27                       | 22,7                  | 0                  | − 0,4 | 2,00     | 1,85 | 0,7      | 0,6  | 3           |
| 26       | 29,2                     | 24,9                  | 0                  | − 0,4 | 2,00     | 1,85 | 0,7      | 0,6  | 3           |
| 28       | 30,8                     | 26,4                  | 0                  | − 0,4 | 2,05     | 1,90 | 0,85     | 0,75 | 3           |
| 30       | 34,7                     | 27,9                  | 0                  | − 0,4 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 32       | 36,7                     | 29,9                  | 0                  | − 0,4 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 35       | 39,7                     | 32,9                  | 0                  | − 0,4 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 37       | 41,3                     | 34,5                  | 0                  | − 0,4 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 40       | 44,6                     | 37,8                  | 0                  | − 0,4 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 42       | 46,3                     | 39,5                  | 0                  | − 0,5 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 44       | 48,3                     | 41,5                  | 0                  | − 0,5 | 3,25     | 3,10 | 1,12     | 1,02 | 3           |
| 47       | 52,7                     | 44,3                  | 0                  | − 0,5 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 50       | 55,7                     | 47,3                  | 0                  | − 0,5 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 52       | 57,9                     | 49,4                  | 0                  | − 0,5 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 55       | 60,7                     | 52,3                  | 0                  | − 0,5 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 56       | 61,7                     | 53,2                  | 0                  | − 0,6 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 58       | 63,7                     | 55,2                  | 0                  | − 0,6 | 4,04     | 3,89 | 1,12     | 1,02 | 4           |
| 62       | 67,7                     | 59,0                  | 0                  | − 0,6 | 4,04     | 3,89 | 1,7      | 1,6  | 4           |
| 65       | 70,7                     | 62,0                  | 0                  | − 0,6 | 4,04     | 3,89 | 1,7      | 1,6  | 4           |
| 68       | 74,6                     | 64,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 1,7      | 1,6  | 5           |
| 72       | 78,6                     | 68,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 1,7      | 1,6  | 5           |
| 75       | 81,6                     | 71,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 1,7      | 1,6  | 5           |
| 80       | 86,6                     | 76,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 1,7      | 1,6  | 5           |
| 85       | 91,6                     | 81,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 1,7      | 1,6  | 5           |
| 90       | 96,5                     | 86,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 2,46     | 2,36 | 5           |
| 95       | 101,6                    | 91,2                  | 0                  | − 0,6 | 4,85     | 4,70 | 2,46     | 2,36 | 5           |
| 100      | 106,5                    | 96,2                  | 0                  | − 0,8 | 4,85     | 4,70 | 2,46     | 2,36 | 5           |
| 110      | 116,6                    | 106,2                 | 0                  | − 0,8 | 4,85     | 4,70 | 2,46     | 2,36 | 5           |
| 115      | 121,6                    | 111,2                 | 0                  | − 0,8 | 4,85     | 4,70 | 2,46     | 2,36 | 5           |
| 120      | 129,7                    | 114,6                 | 0                  | − 0,8 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 125      | 134,7                    | 119,6                 | 0                  | − 0,8 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 130      | 139,7                    | 124,6                 | 0                  | − 0,8 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 140      | 149,7                    | 134,6                 | 0                  | − 1,2 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 145      | 154,7                    | 139,6                 | 0                  | − 1,2 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 150      | 159,7                    | 144,5                 | 0                  | − 1,2 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 160      | 169,7                    | 154,5                 | 0                  | − 1,2 | 7,21     | 7,06 | 2,82     | 2,72 | 7           |
| 170      | 182,9                    | 162,9                 | 0                  | − 1,2 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 180      | 192,9                    | 172,8                 | 0                  | − 1,2 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 190      | 202,9                    | 182,8                 | 0                  | − 1,4 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 200      | 212,9                    | 192,8                 | 0                  | − 1,4 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 210      | 222,8                    | 202,7                 | 0                  | − 1,4 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 215      | 227,8                    | 207,7                 | 0                  | − 1,4 | 9,60     | 9,45 | 3,1      | 3,0  | 10          |
| 225      | 237                      | 216,1                 | 0                  | − 1,4 | 10,00    | 9,85 | 3,5      | 3,4  | 10          |
| 230      | 242                      | 221                   | 0                  | − 1,4 | 10,00    | 9,85 | 3,5      | 3,4  | 10          |
| 240      | 252                      | 231                   | 0                  | − 1,4 | 10,00    | 9,85 | 3,5      | 3,4  | 10          |
| 250      | 262                      | 241                   | 0                  | − 1,4 | 10,00    | 9,85 | 3,5      | 3,4  | 10          |

1) The dimensions given for *D*<sub>2</sub> and *g* apply to mounted snap rings. The rings should fit in the grooves without radial slackness and are therefore somewhat expanded in the mounted condition.

2) Deviation of a single inside diameter *D*<sub>3s</sub> of snap ring, before mounting.

### 3 Minimum chamfer dimensions for outer ring on snap ring groove side

**Table 5 — Minimum chamfer dimensions**

Dimensions in millimetres

| <i>D</i> | Dimension series                         |     | Diameter series |     |     |     |
|----------|--|-----|-----------------|-----|-----|-----|
|          | 18                                       | 19  | 0               | 2   | 3   | 4   |
|          | <i>r</i> <sub>1s min</sub> <sup>1)</sup> |     |                 |     |     |     |
| 13       |  |     |                 | 0,2 | 0,2 |     |
| 16       |  |     |                 | 0,2 | 0,2 |     |
| 19       |  |     | 0,3             | 0,3 | 0,3 |     |
| 22       |  | 0,2 | 0,3             | 0,3 | 0,3 |     |
| 24       |  | 0,2 | 0,3             | 0,3 | 0,3 |     |
| 26       |  |     | 0,3             | 0,3 | 0,3 |     |
| 28       |  | 0,3 | 0,3             |     | 0,3 |     |
| 30       |  | 0,3 |                 | 0,5 | 0,5 | 0,5 |
| 32       | 0,3                                      |     | 0,3             | 0,5 |     | 0,5 |
| 34       | 0,3                                      |     |                 |     |     |     |
| 35       |  |     | 0,3             | 0,5 | 0,5 |     |
| 37       | 0,3                                      | 0,3 |                 |     | 0,5 | 0,5 |
| 39       |  | 0,3 |                 |     |     |     |
| 40       | 0,3                                      |     |                 | 0,5 |     |     |
| 42       | 0,3                                      | 0,3 | 0,5             |     | 0,5 | 0,5 |
| 44       | 0,3                                      |     | 0,5             |     |     |     |
| 45       |  | 0,3 |                 |     |     |     |
| 47       | 0,3                                      | 0,3 | 0,5             | 0,5 | 0,5 |     |
| 50       |  |     |                 | 0,5 |     |     |
| 52       | 0,3                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 55       |  | 0,5 | 0,5             |     |     |     |
| 56       |  |     |                 |     | 0,5 |     |
| 58       | 0,3                                      |     | 0,5             | 0,5 |     |     |
| 62       |  | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 65       | 0,3                                      |     |                 | 0,5 |     |     |
| 68       |  | 0,5 | 0,5             |     | 0,5 |     |
| 72       | 0,3                                      | 0,5 |                 | 0,5 | 0,5 | 0,5 |
| 75       |  |     | 0,5             |     | 0,5 |     |
| 78       | 0,3                                      |     |                 |     |     |     |
| 80       |  | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 85       | 0,5                                      | 0,5 |                 | 0,5 |     |     |
| 90       | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 95       | 0,5                                      |     | 0,5             |     |     |     |
| 100      | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 105      |  | 0,5 |                 |     |     |     |

| <i>D</i>  | Dimension series                         |     | Diameter series |     |     |     |
|---|--|-----|-----------------|-----|-----|-----|
|   | 18                                       | 19  | 0               | 2   | 3   | 4   |
|   | <i>r</i> <sub>1s min</sub> <sup>1)</sup> |     |                 |     |     |     |
| 110   | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 115   | 0,5                                      |     | 0,5             |     |     |     |
| 120   | 0,5                                      | 0,5 |                 | 0,5 | 0,5 | 0,5 |
| 125   | 0,5                                      | 0,5 | 0,5             | 0,5 |     |     |
| 130   | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 140   | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 145   |  | 0,5 | 0,5             |     |     |     |
| 150   | 0,5                                      | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 160   |  |     | 0,5             | 0,5 | 0,5 | 0,5 |
| 165   | 0,5                                      | 0,5 | 0,5             |     |     |     |
| 170   |  |     | 0,5             | 0,5 | 0,5 |     |
| 175   | 0,5                                      |     | 0,5             |     |     |     |
| 180   |  | 0,5 | 0,5             | 0,5 | 0,5 | 0,5 |
| 190   | 0,5                                      | 0,5 |                 | 0,5 | 0,5 | 0,5 |
| 200   | 0,5                                      |     | 0,5             | 0,5 | 0,5 | 0,5 |
| 210   |  |     | 0,5             |     |     | 0,5 |
| 215   |  |     |                 | 0,5 | 0,5 |     |
| 225   |  |     | 0,5             |     | 0,5 | 0,5 |
| 230   |  |     |                 | 0,5 |     |     |
| 240   |  |     | 0,5             |     | 0,5 | 0,5 |
| 250   |  |     |                 | 0,5 |     | 0,5 |
| 1) Smallest permissible single chamfer dimension of <i>r</i> <sub>1s</sub> . The corresponding maximum chamfer dimensions are given in ISO 582. |  |     |                 |     |     |     |

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